Ed Koch/Queensboro Bridge
Upper Deck Replacement
Contract 10 #BRC231F

April 2021
Outline

• Bridge History
• Existing conditions - Main Bridge and Ramp
• What will be done - Project Scope
• What we hope to achieve - Project Goals
• How work will be done - Project Approach
Bridge History

• Construction began in 1901, opened to traffic in 1909
• Over a mile long, five span, double decked cantilever truss
• Designated a National Landmark in November 1973
• Bridge cross section changed over the years
• Bridge has carried:
  - Trolleys until 1930’s
  - Subway trains until 1950’s
  - A vehicular elevator to Roosevelt Island until 1955
• Bridge currently carries vehicular traffic, pedestrians and bicycles
Existing Conditions

• Bridge is over 100 years old
• Heavy traffic volumes
• Bridge rating is 4.214 out of 7 as of 2018
• Changes in bridge use over the years caused
  Changes in bridge cross section
  Additional weight on the bridge trusses
  Heavier loads causing overstress in truss members
# Existing Conditions – Current Traffic Volumes

## Manhattan-bound

<table>
<thead>
<tr>
<th></th>
<th>Weekday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily Total Traffic</td>
<td>85,976 vehicles</td>
<td>83,021 vehicles</td>
</tr>
<tr>
<td>Average Peak Hour Traffic</td>
<td>5,944 vehicles</td>
<td>4,442 vehicles</td>
</tr>
</tbody>
</table>

## Queens-bound

<table>
<thead>
<tr>
<th></th>
<th>Weekday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily Total Traffic</td>
<td>84,498 vehicles</td>
<td>85,348 vehicles</td>
</tr>
<tr>
<td>Average Peak Hour Traffic</td>
<td>5,302 vehicles</td>
<td>5,498 vehicles</td>
</tr>
</tbody>
</table>

Note: Peak Hour Traffic is the number of vehicles per hour in the peak period. Peak period is from 5:00 a.m. to 9:30 a.m. and from 3:30 p.m. to 8:00 p.m.
Average Daily Traffic Volume Comparison

<table>
<thead>
<tr>
<th></th>
<th>Ed Koch Queensboro Bridge</th>
<th>Mario Cuomo Bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>170,474 vehicles</td>
<td>140,000 vehicles</td>
</tr>
</tbody>
</table>

with other Manhattan Bridges/Tunnels

<table>
<thead>
<tr>
<th></th>
<th>Brooklyn Bridge</th>
<th>Manhattan Bridge</th>
<th>Williamsburg Bridge</th>
<th>Hugh L. Carey Tunnel</th>
<th>Midtown Tunnel</th>
<th>Ed Koch Queensboro Bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound</td>
<td>48,379</td>
<td>43,999</td>
<td>56,048</td>
<td>30,280</td>
<td>45,777</td>
<td>84,347</td>
</tr>
<tr>
<td>Outbound</td>
<td>51,607</td>
<td>40,049</td>
<td>55,527</td>
<td>23,252</td>
<td>38,851</td>
<td>89,161</td>
</tr>
</tbody>
</table>
Project Scope

• Upper deck replacement on main bridge
• Upper deck rehabilitation on both approaches
• Structural steel rehabilitation
• Deck joints and barrier replacement
• Lighting and drainage improvements
• Incidental bridge painting
• Fire standpipe system
Project Goals

• Expand Upper Deck Service Life
  Main bridge by minimum 50-75 years

• Lighter deck system

• Durable deck

• Increase Fire Suppression

• Limit public impacts
How work will be done

• One lane continuous closure (upper level only)
• Off peak limited two lane closures
• Crossover in Manhattan & Queens to maintain current ramp access operation
• South Outer Roadway & Lower Roadway open at all times during stages 1 – 6
• Reduce HOV operation by half hour (6:00 a.m. to 9:30 a.m.)
• 4 main construction stages & 2 cross over stages (6 total)
Mitigation for Lane Closures

• Traffic Agents up to 20 hours per day

• All ramp exits and entrances follow existing operation through crossovers

• 24 hour tow service on call in Manhattan and Queens

• Mitigation measures evaluated regularly and modified as required

• Contract has penalty and incentive/disincentive clauses for early closing and/or late opening of lanes
Community Outreach

- Maintain a notification network of stakeholders (local businesses, civic and community organizations, public service institutions, residents and travelling public)

- Social media – Twitter, Instagram, Facebook, Web Portals

- Public service updates – all media outlets

- Community liaison accessible via phone and email

- Information sharing with transportation partners
Thank you